

**Mark Lowcock, Under-Secretary-General for Humanitarian Affairs
and Emergency Relief Coordinator**

**Anticipation saves lives: How data and innovative financing can help improve the world's
response to humanitarian crises**

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As delivered

Thank you. I am delighted to be here.

Twenty months ago, in Dublin, I gave a lecture in the series named after Roger Casement.

A 19th century Irish hero, he was an original champion of humanitarian principles, working in Congo, Nigeria, Mozambique and South America to protect life and promote respect for human beings. He was the first to use the phrase “crimes against humanity”, and he fought against them all his life.

He also stirred controversy and challenged the status quo, to the extent that he was ultimately executed here in London. I am also going to challenge the status quo. Though, while I admire Casement, I am not aiming to emulate him in everything.

First, let me say that without the humanitarian system – the UN agencies, the Red Cross and the brilliant NGOs – the world would be worse off. Every day we save lives, treat people who are ill, and protect those fleeing conflict.

I am tremendously grateful for the support and generosity of many donors. It's their taxpayers that enable us to do this life saving work. The United Kingdom, through DFID, is especially generous, as well as providing significant thought leadership. Some of the things I am going to talk about are British ideas. I remind my friends at DFID that plagiarism is the highest form of flattery.

On Wednesday, here in London and in four other capitals, we will launch the annual Global Humanitarian Overview. It sets out our assessment of humanitarian needs around the world in 2020 and how to meet them.

The outlook is bleak. While life for the average person on the planet is better now than it has ever been, there are also more people than ever at the bottom. Some 2 per cent of the global population, that's more than 160 million people, need humanitarian assistance to survive. Since 2007, needs have grown more than five-fold.

The cost of meeting those needs is also growing. We are now seeking almost US\$27 billion for 2019, for the appeals from the UN, NGOs and others that I coordinate.

We have raised almost \$16 billion so far. That's a record, and about \$2 billion more than we had at the same time last year. But it leaves a large gap.

It would be nice to think we can fill the gap just by raising more money. But we can't. We also have to make the money we have go further.

The best way to do that is to change our current system from one that reacts, to one that anticipates.

The traditional approach to dealing with humanitarian crises has been to watch disaster and tragedy – whether from famines, wars, storms or disease – build, and then gradually decide, normally driven by public and political reaction to media coverage, that we need to respond, then to mobilise money and organisations to help, and then after that to start to get help to the people who need it.

That is a reactive approach. It saves many lives. But it is slower, and hence less humane and more expensive, than it needs to be.

It would be better to take an anticipatory approach, where we plan in advance for the next crises. Put it like this.

If a poor farmer knows that her seeds won't produce a harvest due to an imminent drought, why don't we give her drought resistant seeds, instead of waiting for her family to starve and her children to show up malnourished in a clinic?

If we know that cholera is likely to break out in a particular location, why don't we remind people to wash their hands, and make sure there are clean water sources and enough hydration medicine at the local clinic, instead of waiting till people are infected and fall ill?

Let me be clear that this is not about preventing crises in the more structural way that some people talk about prevention, though I am in favour of that wherever possible too. This is about acting as soon as we know the problem is coming, and typically before it strikes.

You might ask why this is not already the standard approach.

First, because we have not previously had the data and tools which now allow us to predict many crises.

Second, some people think, because the political will to act can't be mobilised until we all see the suffering on our screens.

And third because of bureaucratic inertia and a misguided tendency to act only at the very last minute.

The talk I gave in Dublin set out six proposals for building a more anticipatory system.

Today I want to update you on them.

- First, how we can use insurance products to have funds available exactly when they are needed;
- Second, how we can use pre-agreed, contingency financing from the UN and multilateral banks to release money the moment disaster strikes rather than ringing round asking for it afterwards;
- Third, how we can share risk with the private sector;
- Fourth, how development and humanitarian finance can complement each other;
- Fifth, how we are making the existing humanitarian financing system more efficient;
- And sixth, how we are learning lessons from the innovation and experimentation going on.

Let's start with the first point on disaster risk insurance.

With climate change, natural disasters are becoming more frequent, more intense and more destructive.

Last year the total economic losses as a result of climatic disasters amounted to \$165 billion. Insurance covered half of that.

But the poorest people and the most fragile countries are under-insured. Expanding coverage can make a major difference in preventing shocks from becoming humanitarian crises.

Insurance provides fast, predictable payouts. It also makes people more aware of risk. Whether the policyholder is a country, a business owner or a family, buying insurance boils down to deciding the cost of coverage is cheaper than footing the bill when a storm hits.

Here at LSE, you may agree with my basic observation that individual motives shape social behaviors. At least I hope people still think that at the LSE! It is proven that communities with insurance have greater resilience, can hold on to their livelihood through drought, and can feed their children better.

Let me give you an example. Since 2010 the government of Kenya has offered index-based livestock insurance for pastoralists. The policy pays out automatically once satellites detect that available forage is becoming too scarce for animals to survive. What that means is that pastoralists can protect their animals before they starve or become sick. The insurance here, in other words, provides not just the resources to act, but also the signal that action is necessary.

At the national level, governments can also buy insurance.

Sovereign risk pools can help reduce the cost of coverage through risk pooling and enable quick payouts to governments confronted by disaster.

For instance, the Caribbean Catastrophe Risk Insurance Facility, offers policies to 21 Caribbean States for tropical cyclones, earthquakes, and excess rainfall events.

In September I was in the Bahamas in the wake of Hurricane Dorian. There, the Facility paid out \$13 million within days of the hurricane hitting.

Likewise, there is African Risk Capacity, or ARC, an African Union-led financial entity that shares the risk of severe drought through a continental risk pool. ARC policies pay out when satellite data says not enough rain has fallen. ARC is also developing products for river flooding and tropical cyclones.

In September, ARC announced a disbursement of \$22 million to Senegal in response to the drought. An important feature of ARC is that payouts are conditional on the country using the funds to implement a pre-agreed contingency plan that targets the most vulnerable. In other words, you don't get the coverage unless you have developed a response plan for the potential problem. That helps speed up the response when disaster strikes, because the plan is already in place.

The great advantage of insurance is that it is predictable, and fast.

But the cost of coverage makes policies unaffordable for some people and some governments.

And payout amounts are currently relatively small in relation to the damage done. I saw this clearly in the Bahamas.

There are two other areas in relation to insurance where I am particularly keen to see progress. First, more insurance products that pay out earlier, ahead of a shock. Instead of compensating ex post for a loss, wouldn't it be better pay out earlier to enable policy holders to mitigate the impact of a forthcoming shock? My office is working with ARC and the Insurance Development Forum on this.

Second, more insurance products that incentivise reducing and managing risk. To give an analogy, young people seeking car insurance in the UK can get cheaper premiums if they have speed restriction devices put in their vehicles. That works for insurers because it leads to fewer and smaller accidents and therefore payouts.

Many of the humanitarian crises we are responding to are hard to handle through insurance. This brings me to my second proposal, for greater use of pre-agreed, contingency finance. Multilateral development banks have an important role to play here.

Most governments organize contingency financing for themselves through their national budget process. But many poorer countries are unable, unwilling or too fiscally constrained to do this to a sufficient degree.

Pre-agreed, contingency financing from the multilateral system which gives countries access to grants or loans at concessional rates to finance emergency response and reconstruction can help.

One example is so-called Catastrophe Draw Down Options, which borrowers from the World Bank can obtain. Once a disaster occurs, these so-called CAT-DDOs are designed to be disbursed almost immediately. In May last year, for example, the Kenyan government signed a

CAT-DDO for \$200 million funded by the Bank's concessional lending arm, the International Development Association.

This was the first time IDA funds had been used in this way. There was an opportunity cost for the Kenyan government, because the effect was to reduce marginally the other concessional resources they could get from the World Bank. But this arrangement means that Kenya has an instant right to a pay-out when they need it.

A different example is the way the World Bank Crisis Response Window provides countries with additional financing to respond to natural shocks, economic crises and public health emergencies.

This facility was used to help people in Mozambique, Malawi, and Zimbabwe in the wake of the destruction wrought in March this year by Cyclone Idai. The money is being used to re-establish water supply, rebuild damaged infrastructure, restore agricultural livelihoods, prevent disease and scale up social protection.

The Bank is improving the Crisis Response Window to provide faster assistance and turn it from an instrument of last resort to an instrument of first resort.

In another example of contingency financing, in the wake of Hurricane Dorian, the Bahamas obtained a \$100 million loan from the Inter-American Development Bank. Interestingly, the loan explicitly encourages the government to use the funds for better future risk management and emergency preparedness and risk transfers.

How should decision makers decide on the right balance of insurance versus contingency finance options?

For low frequency, high severity events, market-based insurance products are best. At the other end of the spectrum, for frequent but less severe problems, recourse to the national budget or donor grants might be most efficient. In-between, contingency financing, like that provided by multilateral development banks, is particularly useful.

More analysis and experimentation is needed to help policy makers make better choices in future, and often what's best is a combination of tools.

The establishment of the Centre for Disaster Protection headed by Daniel Clarke here in London is helping with that by developing an intellectual backbone to better understand incentives for risk management.

The establishment of the Global Risk Financing Facility (GRIF) within the World Bank, with finance from Germany and the UK, is also helping governments scale-up risk financing and early action. In Malawi, for example, a country subject as a result of climate change to increasing volatility in the maize harvest which most of the population are reliant on, the GRIF has provided a grant of \$21 million to develop a safety net that can be scaled up and down according to the vagaries of the harvest.

My third main point is about how we can share more risk with the private sector.

In all the countries where we operate, the local private sector plays a crucial role in providing people opportunities and access to livelihoods and essential goods. Businesses also provide services to humanitarian agencies, for example on logistics. And corporate charity is an important source of income for many humanitarian agencies.

But I believe there can be more sharing of risks in humanitarian settings.

Catastrophe Bonds are another instrument that provide cash to governments immediately after a disaster - like an earthquake above 7.5 on the Richter scale. Institutional investors buying the bond are essentially betting that such a disaster will not occur. Typically, a third-party company is set up to issue the bond, make low-risk investments to grow the capital, and collect a premium from the government that is often less expensive than buying insurance. If things go the investors' way, they recover their capital in full, plus the interest generated, plus the government's premium. If a disaster happens, investors lose their capital, which goes as an instant payout to the government.

The private sector has a crucial role, but I don't want to overstate it. The point about the private sector is that there needs to be a financial return. In many of the places where humanitarian needs are most acute, there is limited scope for combining financial return with humanitarian response. Most life-saving work in these places will still need to be paid for by grants.

The fourth main point is about making development finance and humanitarian finance complement each other to reduce suffering and address the root causes of problems.

The World Development Report of 2017 found that many countries are richer not because they have grown faster than poorer ones, but because they have had fewer episodes in which crisis or conflict shrank their economies.

So, what is the global humanitarian system doing about this?

First, we are encouraging a new focus on fragile countries and regions. More of the world's aid resources need to go to these places. Many areas that suffer humanitarian need barely receive any development support. As a result, humanitarian organizations have been drawn into doing longer-term work with short-term funding. That is not efficient.

Second, we support development interventions that focus on making people and communities climate resilient. As I mentioned earlier, in southern Africa, too many people depend on rain-fed maize for their livelihoods. Maize needs 90 days of decent rain. Because of climate change, there are fewer years now in southern Africa in which the rains are adequate. There is therefore an urgent need for economic diversification.

Third, we advocate for macro-economic interventions to reduce humanitarian need. This can be powerful in complementing the delivery of humanitarian aid. Last year in Yemen, for example, restrictive economic policies and a foreign currency shortage constrained imports and drove up

the prices of food, fuel and medicines to levels unaffordable for millions of people. A famine was imminent. A partial easing of trade policies and an injection of foreign currency helped stabilize prices and the exchange rate. A major catastrophe was averted.

The key point is this: crisis settings are not the exclusive domain of humanitarian organisations.

Conversely, we must find ways for every humanitarian dollar to work for development. Sometimes it makes more sense to support long term solutions and solve the underlying problem than to respond to the crisis each time.

For example, it is estimated that in Ethiopia the cost of 6-9 months of water trucking to camps for displaced people is equivalent to the cost of a semi-permanent water supply system. Too often we end up financing trucking for two years or more when it would be cheaper to establish a more permanent solution from the outset.

In the past, the Lake Tana plains in Ethiopia flooded every year. Humanitarian organisations were spending more than \$1 million a year to keep water-borne disease in check and replace the seeds that washed away. It turned out that the flooding was due to the build-up of river sedimentation and weak river banks. So one of the funds I manage allocated a bit of money for the de-silting and the rehabilitation of river banks. Thereafter, the farmers of Lake Tana no longer experienced excessive flooding year after year.

My fifth point is about making the existing humanitarian financing system itself more efficient.

The most important point is that we need to respond both earlier and faster.

Responding earlier means anticipatory action.

Responding faster means acting quickly when it is clear action is needed.

Let me talk first about anticipatory action.

There are three elements to an anticipatory approach: validated forecasts or scenarios (the model); pre-agreed finance (the money); and pre-agreed actions (the delivery).

To determine if a shock is imminent, we need to use data and models to forecast them and their impact. Models need to be validated. When the forecast exceeds an agreed threshold, pre-agreed finance should be released for the implementation of pre-agreed actions.

A few examples.

In July, the Government of Bangladesh and the World Food Programme identified communities about to be flooded in north western Bangladesh. The traditional approach would have been to mobilise experts and stock pile food and shelter materials. This time, WFP simply gave 5,000 families \$53 each three days in advance. People moved to safer areas, fortified their homes and bought essential supplies.

In Somalia, the UN and the World Bank have developed an anticipatory action framework to respond to out-of-the-ordinary droughts. This mechanism will release finance when a drought is predicted to lead to an intensity of humanitarian need, as was the case in 2010-11 and 2016-17. Funds will be released, for example, for the distribution of drought-tolerant seeds, to provide supplementary fodder for livestock and to rehabilitate water points.

There is a similar story from dealing with the plague in Madagascar. The Pasteur Institute last year predicted more than 2,700 cases of plague there. One of the largest outbreaks in decades. So last November, my Office provided \$1 million to preempt it. Only 250 cases were finally reported and there was no spread to other countries – unlike the previous year.

My final example in this category is one of the most interesting cases of using data to predict problems and take action in advance. It arises from work done by US scientists supported by the UK's Department for International Development to predict cholera outbreaks. Some people think it may now be possible to predict a first person becoming infected up to four weeks ahead of time, within a geographic area smaller than 250 meters by 250 meters anywhere in the world.

Were this to be validated, there is potential to use such a model for anticipatory action to prevent outbreaks from occurring in the first place.

Examples like these are improving our understanding of how best to implement an anticipatory approach.

For one thing, there are a lot of scientific models that promise to predict humanitarian needs. But most of them are not independently reviewed or assessed against their usefulness for humanitarian action. A lot of data is used for advocacy. We need to be more rigorous in using data for better decision-making.

Another point is that some people would like a scientifically perfect method to trigger the release of finance. A mindset focusing on balance of probabilities and risk-mitigation might be a better approach.

Otherwise you risk waiting too long in the search for perfection and find you have missed the best opportunity to curtail the problem.

A further point arises from how we respond to the fact that models can be incorrect. We can be paralyzed by the fear of getting it wrong. But research finds that actions based on false alarms could be taken up to 60 per cent of the time before the total costs would outweigh those of a single late response.

So much for earlier action. Let me move now to the issue of faster action.

A long time ago, I used to go to meetings about the EU's Stabex Fund. This was a programme designed to protect developing countries highly reliant on commodity exports against fluctuations in earnings arising from price changes. The concept was excellent: when earnings

plummet because the global price collapses, make a compensatory payment to help the local government cope.

Unfortunately, the scheme got tied up in so much bureaucracy it ended up being counter cyclical. It took so long to make the payments that they often arrived only after the price had shot up again. So the scheme designed to reduce volatility in fact ended up increasing it. Eventually, and unsurprisingly, it was shut down.

Speed of response in humanitarian crises is crucial.

The World Bank estimates that an emergency response to malnutrition that is one month quicker than usual results in gains in income amounting to nearly 1 per cent per capita permanently. The financially minded among you will recognize that being one per cent a year better off forever is quite a big deal.

Sometimes we do very well in acting fast. After Cyclone Idai hit Mozambique in March, humanitarian organisations delivered help – food, water, shelter and health care including immunization – to a million people within a month. Not promised. Delivered.

But we can be faster. We are about to begin a review of our procedures in the UN's Central Emergency Response Fund – that's one of the funds I run, which last year raised \$550 million, and which UN member states have agreed to increase to \$1 billion a year – to look at that.

The CERF is already, I think, the first and the fastest. But we can do better.

This is an issue the World Bank is looking at for its crisis response too. We need to remember that what matters is not when you announce you are going to help. Often in the heat of crises you hear lots of announcements and promises. But, as my grand-mother used to say, fine words butter no parsnips. What matters is when the money is delivered and spent. I think it would be very helpful if the media and others were to ask more questions about that.

There are many other ways in which we are making the traditional, reactive humanitarian response system more effective and efficient.

For example, to deal with the fact that many crises, especially those like what we are dealing with in Syria, Yemen, Afghanistan among other places are long lasting, there was agreement in 2016 to provide longer term funding. Accordingly, the 11 countries providing more than 80 per cent of humanitarian assistance increased their multi-year funding from \$2.7 billion in 2016 to \$4.8 billion in 2018.

Likewise, it is well established now that giving affected people cash rather than commodities is the best way to help them. Cash and voucher use have increased by 60 per cent between 2016 and 2018. We need to go a lot further, and last December the heads of the UN's World Food Programme, the children's agency UNICEF and the UN's Refugee Agency, UNHCR, and I issued a joint statement setting out our vision for that.

My final and sixth point is that as we innovate more, try to use data better and anticipate problems before they occur, we need to analyse what is working and what is not. And we need to be honest about the lessons. Some of the innovations I talked about last year already look to have less mileage; others show more promise and some new thinking has emerged too.

We want to confidently scale up the successful experiments and ruthlessly sunset the others.

To fuel this work, my office is collaborating with the Rockefeller Foundation on cutting edge data science and analysis. We will announce more details on this in Davos in January.

We are scaling up the predictive analytics work in our Centre for Humanitarian Data in the Hague. OCHA will support the development of new models and will run independent and impartial peer-reviews to assess them against ethical, technical, and humanitarian standards.

We are also expanding our partnerships with others. The UK-sponsored Risk-informed Early Action Partnership (REAP) which is led by the Department for International Development here in London, was launched in September 2019 and will become fully operational in early 2020. One of the goals is to cover an additional 1 billion people by financing and delivery mechanisms that can act ahead of predicted disasters and crises.

I am nearly finished.

In Dublin I said we must move to a more anticipatory humanitarian system. The experience of the last 20 months has made me more optimistic that we can and will succeed in getting ahead of more crises.

That said, not everything can be anticipated in a way that is useful for humanitarian action. Especially in conflict zones, there is a lot of complexity. Anticipatory action will not totally replace traditional humanitarian responses anytime soon. But we owe it to people in need and taxpayers around the world to do a lot more than we are doing now. And with the impact of climate change, there is additional urgency to be faster and more efficient.

A few weeks ago, a team of scientists reported an 80 per cent chance next year of an El Niño. You may recall the devastating impact of a similar climatic event in 2016 and 2017. If the scientists are right, 2020 will see intense storms and crippling droughts.

So, do we take this as an interesting bit of scientific journalism or as a call to action? Let's not ask in a year's time how can we help people who have lost their crops. Let's ask what we can do now to mitigate the likely drought in Southern Africa and floods in the Horn.

If we manage to move in that direction, we will get a response that is faster, cheaper, and more dignified. One that protects hard-won development gains. One that deals with problems before they arise and where they arise.

Thank you.
